DOCUMENT RESUME

ED 306 712 EC 212 774

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TITLE What Is Effectiveness? Panel Discussion.
PUB DATE Jul 88
NOTE 30p.; In: Research in Education of the Handicapped. Project Directors' Meeting (3rd, Washington, DC, July 10-12, 1988) Proceedings; see EC 212 771.
PUB TYPE Speeches/Conference Papers (150) -- Viewpoints (120)

EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS *Disabilities; *Educational Research; *Evaluation Methods; Followup Studies; *Instructional Effectiveness; *Intervention; Longitudinal Studies; Normalization (Handicapped); *Outcomes of Education; Preschool Education; Program Effectiveness; Secondary Education; Special Education; Student Educational Objectives

ABSTRACT

Two papers are presented from a panel discussion moderated by Naomi Zigmond, who introduces the papers with a note on definitions and measures of intervention effectiveness. "Some Thoughts on Effective Intervention for Handicapped Preschoolers," by Phillip Strain, notes that special education researchers attempt to be efficient, economical, politically compatible, and consistent with values, and later consider effectiveness only in a belated fashion. Researchers should consider how consumers evaluate effectiveness, because interventions will not be used if people cannot see a difference in child outcomes attributable to these interventions. Researchers should also recognize the importance of longitudinal studies. The second paper, "Markers of Effectiveness at the Secondary Level in Special Education" by Eugene Edgar, contends that the important aspect of secondary special education is to prepare students with skills and attitudes that will enable them to experience some quality of life, and to offer them the opportunity to practice their skills in the natural environment. Measurement of student outcomes is very difficult and involves issues of how to obtain data, when to obtain data, and from whom. The paper examines follow-up studies of special education school leavers and offers guidelines for conducting future effectiveness research. (JDD)

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Panel Discussion: What is Effectiveness?

Moderator: Naomi Zigmond

Panelists: Phillip S. Strain
Eugene Edgar
Joseph Jenkins

EC 213774

Panel Discussion:

What is Effectiveness?

Naomi Zigmond, Moderator: One of the most critical questions facing practitioners and researchers in special education concerns the definition of effectiveness. What is special education for? What are indicators that special education services have been effective? Should we, as a field, be satisfied with very narrow definitions of effectiveness, i.e., positive changes in a single behavior which has been the target of instruction? Or, do we expect special education services, especially those designed for mildly handicapped student to remedy the students' problems, make the students all better? We have all faced this issue, as practitioners and as researchers: for example, a master's student of mine, after some years out in the field, came back and told me about her experience with learning disabled students. She had worked *relentlessly* to have these students achieve some success in academic work, and at the end of a couple of years, most of her students had done remarkably well. When she proudly displayed the data to her supervisor, the supervisor said, "Well, they probably weren't learning disabled to begin with!" Clearly, the supervisor's view of effectiveness was not that the students would be "cured." If a teacher could accomplish that, the students must have been misdiagnosed!

The issue came up again in some of the work that Helen Thornton and I have been doing on dropouts. We locate high school earning disabled graduates and dropouts a year or so after what should have been 12th grade. We ask these young people to take a basic skills test and we inquire about their employment status and employment history. When we look at the basic skills levels of learning disabled students who have graduated from high

school, we find that they are still very far inferior to the levels of control peers. Does that mean that the special education program given to these LD students had not been effective? Should we have expected special education services to narrow the achievement gap? On the other hand, the LD graduates were employed at rates that were equal to, and at pay rates that were equal to, non-disabled peers who had also graduated from high school. Did that mean that their special education program had actually been a success? Should we expect that there would be some life-long penalty for being learning disabled? After all, LD was a condition these young people carried with them even into the employment market. Or are *effective* special education services ones that produce no long-term penalty?

Well, I brought these sort of ill-formed questions about how to measure the effectiveness of special education to the Planning Committee last December, and the outcome was this panel this morning: a discussion of "effectiveness" in special education, and more specifically, since many of us are involved in intervention research, a discussion of appropriate measures of successful interventions, i.e. appropriate measures of effectiveness? We have with us Phil Strain from the University of Pittsburgh, Joe Jenkins from the University of Washington, and Eugene Edgar from the University of Washington. Each one, in turn, will give us their views on defining the outcomes of special education, one at pre-school, elementary, and secondary and post-secondary levels. They will address what special education trying to accomplish, and how do we measure that? We're going to go in my favorite order, reverse alphabetical, which means we start with Strain, and then Jenkins, and then Edgar. We'll hold questions until the end when I hope we will have time for an interactive discussion.

Some Thoughts on Effective

Intervention for Handicapped Preschoolers

Phillip S. Strain, Ph.D.
Western Psychiatric Institute and Clinic
University of Pittsburgh School of Medicine
Pittsburgh, Pennsylvania

Paper presented at 1988 OSEP Research Project Directors' Conference, Washington, D.C., July, 1988

I want to begin by pointing out that being effective, as in helping children to learn important things about themselves and the world around them, is a small piece of what it takes to move empirical findings from the literary museums we call journals to everyday practice. We in the research community have a much more broad, difficult, and occasionally improbable agenda. As indicated in Figure 1, we must also be efficient, economical,

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Insert Figure 1 Here

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politically compatible, consistent with values and, of course, we have to look to the outside world.

I have also tried to suggest in this Figure that the adoption of educational practices often follows a path that belatedly considers effectiveness. And, I have contrasted this path with a more typical one for medical procedures, where effectiveness is always the initial concern. Finally, let me suggest that many educational researchers see the world quite differently from those who will or will not adopt their effective procedures. We have, I think, made some honest attempts in recent years to be efficient, economical, compatible, and all the rest. I think we should continue to pursue that course, with this caveat: That we nail the question of effectiveness <u>prior</u> to working on other standards for adoption. I also think we should go about studying how to make effectiveness a more valued dimension in the eyes of classroom teachers, school administrators, and tax payers.

MEDICAL
INTERVENTIONS

EFFECTIVE

EFFICIENT

ECONOMICAL

POLITICALLY COMPATIBLE

CONSISTENT WITH VALUES

LOOK GOOD

EDUCATIONAL
INTERVENTIONS

88

FIGURE 1

The second point I would like to raise is very much related to the first. The point has to do with using empirical methods to understand how our various consumers evaluate effectiveness. Figure 2 depicts some of the relevant concerns around consumer

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Insert Figure 2 Here

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issues. At the most basic level we need to know if the opinions of consumers are positive, neutral, or negative in regard to effective intervention practices. We know enough at this point to say that effective interventions will not be used if people do not like them, or, if they cannot <u>see</u> a difference in child outcomes attributable to these interventions. It is interesting to me that this phenomenon is so widespread. It applies to the use of aversive procedures to treat self-injury, the full litany of behavior management procedures applied to behavior problem children, self-monitoring with adolescent offenders, and integrated service delivery for preschoolers.

At a slightly more complex level we need to determine the relationship between opinions and specific outcomes. For example, does a unit of child behavior change yield a unit of parent or teacher satisfaction? Do we have to produce the behavior change for a long time for people to see it? What are people really happy about? Is it child behavior change or the intervention experience itself? Of course, to answer any of these questions we have to decide that what people say about our interventions is <u>important</u> and <u>valid</u>. If we launch such studies

HOW CONSUMERS EVALUATE EFFECTIVENESS

1. Are the opinions positive, neutral, or negative?

2. What is the relationship between opinions and specific behavioral outcomes?

3. What is the threshold of behavior change that is perceptible to consumers?

FIGURE 2

to answer these questions on a wide-scale basis then we might eventually reach the final goal of identifying levels of child behavior change that predict good consumer opinions, and therefore predict a good likelihood of continued intervention use.

My final point regarding effectiveness reflects a strange form of amnesia that overcomes researchers of every theoretical persuasion who are fortunate enough to have any positive, long-term follow-up data. We forget about the contemporary environment while giving superordinate credit to historical events. I think this forgetfullness is a problem because it obscures an analysis of why we continue to be effective, or not. In early childhood work at least, what happened as much as 20 years ago is somehow directly causative of the most complex, interactive, and elusive of human behavior. As a mild aversive, let me point out that the only theory which is consistent with such a historical attribution is psychoanalytic, pre Anna Freud. While the interactionists may argue that they have derived a conceptually believable scheme to handle two decades of person-environment transitions, there are too many unknown steps in the sequence to make me very comfortable with such an approach.

As an alternative to looking solely to the past, or to intervening and as yet non-specified events, let me offer a simple minded example of how follow-up data can be considered as influenced by the contemporaneous environment; influenced by, therefore controllable by, and predictable.

Consider the illustrative data in Figure 3. Each panel represents a different grade level (K-2) and each data point

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Insert Figure 3 Here

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within panels represents one days' data collection. The relationship between on-task behavior on the part of the former early intervention recipient and class structure is suggestive, and these correlational findings set the stage for the subsequent functional analysis of on-task behavior as a follow-up measure.

I am not suggesting in this Figure that all follow-up measures are so fluid. I am suggesting, however, that one need not rely solely on history to explain variance in follow-up data. More importantly, I am suggesting the possibility that "being effective" over the long-haul may well imply longitudinal intervention. Trying to define effectiveness is a bit like trying to throw a fastball soaked in 40-weight oil. The harder you try, the less likely it seems that success will come your way. At least part of the fastball and definitional problems come, I think, from persuing a well-travelled and fruitless road one too many times. We need a rather radical set of alternatives. Try as we might, we cannot throw our fastball soaked in oil and we can not grasp effectiveness with a singular focus on immediate child outcomes. Our focus also needs to include longitudinal outcomes and a careful analysis of contemporaneous environments. Our focus also needs to include the opinions of consumers, sampled rigorously and analyzed

100
75
50
25
0
% CHILD ON-TASK
100
75
50
25
0
% SCHOOL DAY
DEMANDING RESPONDING
OBSERVATION SESSIONS

93

FIGURE 3

accordingly. Finally, our focus needs to include the full-range of dimensions that influence school practices and child outcomes. Efficient, economical, and politically compatible are a few of the other adjectives that must apply to our intervention procedures.

Markers of Effectiveness at the Secondary Level in Special Education

Eugene Edgar

University of Washington

July 12, 1988

Annual Research Project Directors Meeting

Washington, DC

There is a point on the Willamette River near Eugene, Oregon, where a classical Oregonianism is to be found: "Warning, dangerous rapids ahead, only expert kayakers or fools should proceed." Attempting to discuss the effectiveness of secondary and postsecondary programs in special education is no easy matter. Even developing a framework by which to conceptualize an evaluation schema is fraught with philosophical rapids and methodological whirlpools. To venture past this initial point of conjecture requires expertise that exceeds my current white water rating. However, never being one who lacks foolhardiness, I will slide on by this starting point.

Following Naomi's lead, I have organized my thoughts around her four basic questions:

1) What is special education trying to accomplish?
2) How can these outcomes be measured?
3) What are the indications that special education programs have been effective?
4) From a research perspective, what are the "rules of evidence" to support a contention that special education is effective?

What is Special Education Trying to Accomplish?

This is obviously the most crucial point of the entire exercise. What is the purpose of special education, or indeed of public education in general? The easy answer for us today is to accept the "OSERS Bridge" model and declare that special

education is "an outcome oriented process encompassing a broad array of services and experiences that lead to employment" (Will, 1984, p. 1). I personally reject that premise as being far too simplistic.

Chester Finn (current Assistant Secretary for Research and Improvement in the Department of Education) views the outcomes of schools in terms of preparing students (all students, he argues) with skills for 1) the social system in which we live, 2) personally fulfilling lives, and 3) the next phase of their lives, be it employment or higher education (Finn, 1986).

A third view is that of Wehlage (1983), who has developed proposed outcomes based on adolescent developmental theory. He advocates teaching coping skills (self-management, conflict resolution, and problem solving) as well as specific skills.

Thus, we desire our students to be job-ready for employment, knowledgable of our political system, self-assured as to "who they are," competent in reading, socially adept, emotionally intact...truly ready to be productive contributors to our society.

These definitions of desired outcomes ring more true to me than simply advocating for employment. But this stretch of white water is lethal. Philosophically, we (in the United States) view the public education system (K-12, or 0-21 for us in special education) as the "great entitlement," the process by which each of us is given the opportunity to partake in our way

of life. Education is the religion of democracy (Boorstin, 1974). The converse is that, other than the public school system, our society provides scant assistance to its citizens. Public schools are "it" as far as opportunities go for receiving services from our government (entitlements, assistance, help, compassion). For many of our citizens, and especially those from the underclass, public schools are their only chance to acquire a reasonable shot at having a minimally acceptable quality of life. Given this enormous importance of public education, the debate on desired outcomes for special education students at the secondary level must not stop with easy solutions such as "employment" or esoteric cliches such as "productive contributors to our society."

I contend that the important aspect of secondary special education is to prepare our students with skills and attitudes that will enable them to experience some quality of life (have choices, experience joy, interact with friends, feel productive, care for their personal needs, compete in our society). I also believe the outcome of schooling should include opportunities to practice these skills in the natural environment. Thus, <u>experience</u> is also an outcome. I also believe that the education system must assume the role of identifying those students who will require ongoing support and assist those individuals in locating needed services. Finally, I believe

educational professionals have the ethical duty to inform their fellow citizens of the human service needs of their students.

Now, I am the first to acknowledge that my list is no better (nor worse, I will add) than those proposed earlier. This is a thorny issue (how many metaphors can I use?). My final recommendation is that this debate become a valued part of our "scientific endeavors." I know, and agree to a large extent, that we need to base our discussions on data, that our journal articles need to be data-based, empirical inquires into the nature of nature herself. Yet, are we asking the right question?

> "It is axiomatic in science that progress hinges on asking the right question. Surprisingly, once the right question is asked the answer seems almost to tumble forth. That is a retrospective view; in prospect, it takes genuine (and mysterious) insight to see correctly into the brambles created by previous ill-chosen verbalizations" (Hardin, 1978, p. 29).

We, as a subgroup of our profession, should advocate for open debate on "the purpose of special education."

How Can These Outcomes Be Measured?

How does one measure quality of life? Or the presence of skills and attitudes necessary to freely partake of "our way of life" without resorting to concrete, objective facts such as salary level and place of residence, or subjective self-report statements ("I'm satisfied with my life")? These are difficult questions we must all confront and debate.

Conducting follow-up studies of special education school leavers poses many problems. Even after the outcomes have been

defined, a major issue remains: who provides the information---former students, parents, a third party? For some questions, the answer is clear---i.e., How satisfied are you with your life? For others, however, there is no clear method---i.e., What is your child's current employment status? Sometimes the parents will not know the employment status of their adult child, sometimes the former student will not tell the truth, and locating knowledgeable third-party informants is often very difficult. In other instances, the former student is not able to communicate. Selecting informants is clearly a difficult task.

Another issue to consider is how to obtain the data. The most cost-effective procedure is the telephone interview. This practice may not be as efficient as in-person interviews where cost, however, is very high. Written questionnaires seem least desirable and often result in a biased sample as well as a low return rate.

When to probe is also an issue. Most studies report data sometime during the first year after leaving high school. However, we need more data about the lives of former students during the years after exit. Just how long to track these students is not clear. There is some evidence that all American youth "flounder" for the first several years after high school (Hamilton, 1986). If this is true we need to follow our

graduates for 3-4 years after graduation mainly to determine their eventual status in life.

Finally, there is the issue of quality. Regardless of how many minutes I spend thinking about how to measure quality, I always return to ethnographic procedures. The work of Andrea Zetlin and Mike Murtaugh (1987) provides examples of the type of data that can be obtained using these procedures. Problems with small Ns and reliability of measures notwithstanding, ethnographic methods yield information on quality issues (i.e., type of friendships, extent of opportunities) that can be obtained in no other way.

What Are The Indications that Special Education Programs Have Been Effective?

There have been numerous follow-up studies of special education school leavers (graduates, age-outs, and dropouts) conducted in the 1980s. These studies have used parents or students as informants, have sampled students at 1-5 years from the point of leaving school, and have focused almost entirely on job status, postsecondary education, and living situation. There is a fairly consistent pattern of results.

Overall, approximately 60% of the special education graduates are employed (Mithaug, Horiuchi, & Fanning, 1985). For students with more severe disabilities, such as moderate retardation, the employment rate is lower (41%) (Wehman, Kregel,

& Seyfaith, 1985), while close to 70% of the LD students are employed (Zigmond & Thornton, 1985).

The data vary considerably in regard to postsecondary education. Hearing and visually impaired students have a high rate of attendance (60%) as compared to severely behavior disabled students (23%) (Edgar & Levine, 1987). The real test of postsecondary attendance, of course, is graduation rates, for which there are few data.

Most special education graduates live with their parents or relatives 2-3 years after leaving high school. Of course, this is also true of nondisabled youth.

In addition, about 25% of all special education school leavers tend to earn more than the minimum wage and few receive any type of benefits (i.e., health insurance) (Hasazi, Johnson, Gordon & Hull, 1988). The data on nonhandicapped students appear to be very similar as to wages and benefits. Youth in America, in general, live in poverty, and have very poor health care.

There are examples of special education graduates doing well after high school, but most of these students are receiving some type of ongoing support services (Wehman, Hill, Goodall, Cleveland, Brooke, & Pentecost, 1982).

A large percentage of mildly handicapped students never graduate from high school - they drop out. Data on dropouts from special education are difficult to determine but there is

considerable evidence that many mildly handicapped students do not complete high school programs. Zigmond & Thornton (1985) report a dropout rate of 50% for LD students, while Hasazi, Gordon, & Hull (1985) report a rate of 35% for all special education school leavers.

A final point is that of comparison to some norm or standard. Even after collecting all these data, to what standard do we compare our results? Certainly using a nonhandicapped cohort provides some comparison. But what about the iniquities that many of our nonhandicapped youth experience? If we can report that youth who pass through the special education system are no worse off than youth who have not been in special education, can we be satisfied? I think not. We must develop some concrete standard by which to measure our outcomes.

Overall, I believe the data do not support the notion that "things are going well for special education graduates."

Rules of Evidence

I propose the following notions as guidelines for conducting future effectiveness research. Four points seem to be relevant: 1) operationalizing outcomes; 2) analyzing data by subgroups within the total special education population; 3) measuring the process variables (the independent measure); 4) attention to the size of Ns and national as well as local representation.

Outcome measures. Obviously, I question many of our current outcome measures. However, at a minimum, we should consider the following: skill levels (e.g., achievement test scores); success in postsecondary training (e.g., graduation from college or vocational school); job acquisition (salary level, benefits, promotions); friendships; reported satisfaction with life; and absence of negatives (e.g., legal problems, institutionalization, being unengaged). Our current data base consists almost exclusively of information on jobs, salary levels, and postsecondary education. We must expand these measures to include the more qualitative aspects of life.

Subgroup analysis. The special education population is incredibly heterogeneous. I strongly recommend careful analysis in terms of the following subgroups:

1) Type and severity of disability. Even with the controversy concerning inappropriate labeling, we cannot squash together various types of disabilities. We must give careful attention to levels of severity, especially in regard to mental retardation. As obnoxious as IQ scores may be, indiscriminate groups of "MR" are even more annoying. Outcome studies need to identify the populations as finitely as possible and report data in terms of subgroups. Data can always be aggregated; seldom can they be divided.

2) Gender. There are considerable data to support the view that gender influences outcomes. Within each disability category, researchers should consider gender as an important factor.

3) Ethnicity. Regardless of the reasons, ethnic minorities are overrepresented in the special education population. We must analyze our results by ethnicity so we do not miss possible trends. Have no doubts, if we do this, we are all going to feel uncomfortable.

4) Social class. There is reason to believe outcomes are directly affected by the level of the family social status of our students. Students from underclass families do less well than students from the middle class. Even though this marker is most difficult to obtain, we must begin to analyze our results by social class. I fear that social status accounts for the major amount of all variance in our results.

Measuring the process variables. Simply collecting data on the postschool status of special education students is not sufficient. We must begin to obtain follow-along data on the types of programs students receive while in school and correlate the programs to outcomes. The inpact of integrated versus segregated programs on student outcomes is one type of issue to address. In addition, we need to follow students who have received systematic vocational training as compared to those who

receive only academic training. The issue here is that of programs which offer sequential vocational experience, not simply attendance in a "world of work course." Data on attendance and skill acquisition while in the secondary program are needed. The only way to do this is to implement systematic data collection procedures while students are still in high school, and follow these students throughout their high school careers and into the adult world for several years. This would truly be a follow-along study.

Population considerations. As researchers conduct their studies, they must take care to collect data using large samples that represent various geographical regions. Urban, suburban, and rural areas need to be sampled as well as students from industrial and agricultural communities.

Many current studies have trouble locating significant numbers of special education school leavers (usually about 60% are contacted). The most mobile students tend to be missed. My guess is that the students who are difficult to locate probably are experiencing less success than those students who are discovered with the exception of the Iowa study (Sitlington, 1987) the "hit rate" of most studies is suspect.

Summary

Education is the major entitlement for all citizens of the United States. Our educational system provides the process by which our youth enter the adult world, prepared to be happy,

productive citizens. Many students served in special education enter the adult world with a minimal likelihood of achieving a successful life. These students come to us not of their own free will but rather by default, when other options fail them. We must carefully celebrate our successes, and freely admit our shortcomings. This problem demands bold, persistent experimentation. It is common sense to take a method and try it; if it fails, admit it frankly and try another (I paraphrase a quote by Franklin D. Roosevelt on announcing the New Deal, which is cited in Boorstin, 1987, p. 84). To do otherwise is to let down those who place their confidence in us. We cannot be frightened off by the rapids in our path.

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